

**REMARKS**

**I. Claims 8-15: Claim Objections**

Claims 8, 10, 12, 14, and 15 have been amended to remove multiple dependencies.

**II. Claims 1 and 5: 35 U.S.C. § 102**

Claims 1-15 are directed to a method for enhancing communication in a noisy environment. The method includes processing the input signals of each microphone array by a beamformer to determine temporal and spatial information about the input signals of each microphone array.

The June et al. reference describes a method for detecting three-dimensional direction of sound source using an orthogonal circular microphone array system. A direction detection unit discriminates a speech signal from signals received by a microphone array, estimates a direction of a sound source from the speech signal, and outputs a control signal for rotating the microphone array. June et al., [0035]. June et al. does not teach or suggest a device that forms a beam through a relative phasing and a contribution to render a sum of signals from an array, e.g., a *beamformer*.

Accordingly, Applicants respectfully assert that June et al. does not teach or suggest all of the features of claims 1-15.

**Claim 3**

Furthermore, claim 3 recites features that are not disclosed or suggested. Claim 3 is directed to a method that enhances communication in a noisy environment wherein a wanted signal beamformer is an adaptive beamformer being adapted only if no signal is transmitted from the wanted signal direction.

June et al. does not teach or suggest a beamformer.

The Yang et al. reference describes noise suppression for a wireless communication device. A *noise* signal is adapted during periods of non-speech activity. Yang et al., cols. 11: 28-30, 36-38; 10: 36-39, 44-47.

Neither June et al. nor Yang et al. teach or suggest that a *wanted* signal *beamformer* is an adaptive beamformer being adapted only if *no* signal is transmitted from the wanted signal direction.

### **III. Claims 16-21: 35 U.S.C. § 103**

The Examiner rejected claim 18 as being unpatentable over June et al. and Roddy further in view of Official Notice. Office Action, page 7. The Examiner asserts that the features of claim 18 are commonly known in the art. Applicants respectfully request that the Examiner provide an affidavit in support of the Official Notice for each of the rejected claims or withdraw the rejection. See MPEP § 2144.04 and 37 CFR 1.104(d)(2).

The features of claims 17 and 18 have been amended into claim 16.

#### **Claim 21**

Furthermore, claim 21 recites features that are not disclosed or suggested. Claim 21 is directed to a communications system comprising a digital signal processing means configured to process the digital signals of each microphone array by a beamformer.

June et al. does not teach or suggest a beamformer.

The Roddy reference describes an integrated communication system for a vehicle. A microphone and a speaker are located at each occupant position within the vehicle passenger compartment. Roddy, col. 1: 58-59. Roddy does not teach or suggest a beamformer because Roddy does not teach or suggest microphone arrays.

### **IV. Claims 4, 6 and 7: Allowable Subject Matter**

Applicants appreciate the Examiner's recognition of allowable subject matter in claims 4, 6 and 7.

**CONCLUSION**

In view of the remarks above, the Applicants respectfully submit that the claims are in condition for allowance, and respectfully request a Notice of Allowance. If any issues remain, the Applicants request that the Examiner call the undersigned attorney to expedite the prosecution of the application.

Respectfully submitted,

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